

Available online at www.sciencedirect.com**SciVerse ScienceDirect**

Procedia - Social and Behavioral Sciences 84 (2013) 723 – 727

Procedia
Social and Behavioral Sciences

3rd World Conference on Psychology, Counselling and Guidance (WCPCG-2012)
**Effects Of Gender And Passage Content On Multiple-choice
Reading Comprehension Test**

^aBahman Gorjian, ^bMehdi Javadifar^a*Department of TEFL, Abadan Branch, Islamic Azad University, Abadan, 63167, Iran*[bahgorji@yahoo.com](mailto:iranbahgorji@yahoo.com)^b*Research & Science Center of Khuzestan, Islamic Azad University, Ahvaz, 61137, Iran*

Abstract

This study examined the effects of the readers' gender and passage content on multiple-choice (M-C) reading comprehension test performance among Iranian EFL university students at the upper-intermediate level. Sixty participants passed three M-C reading comprehension tests (male-oriented, female-oriented, and neutral). Findings revealed significant effects of the readers' gender and passage content on the test performance of the EFL readers ($p < .05$). The results of this study provided evidence that prior knowledge and interest to the passage content concerned with readers' gender have facilitating effects on the performance of the foreign language learners taking M-C reading comprehension test at the upper-intermediate level.

© 2013 The Authors. Published by Elsevier Ltd. Open access under [CC BY-NC-ND license](http://creativecommons.org/licenses/by-nc-nd/3.0/).

Selection and peer-review under responsibility of Prof. Dr. Huseyin Uzunboyulu & Dr. Mukaddes Demirok, Near East University, Cyprus

Keywords: Gender, passage content, multiple-choice, reading comprehension test

1. Introduction

Selecting reading passage is one of the most primary and critical phases in constructing a reading comprehension test. It should have an optimal discrimination power in order to maintain almost a fair assessment of reading proficiency of individuals regardless of their gender difference, particularly where examination results have a vital impact on test-takers' lives – for example, University Entrance Exams.

In investigating the differences between males and females, with respect to language, researchers do not seek to expose genetic differences. Social or socio-cultural factors may account for gender differences in language learning and performance. These social or socio-cultural factors seem to bring about gender differences in reading comprehension test performance of written materials given to male and female test-takers. Brown and Macnamara (2004, p. 534) assert that "multiple social factors, many of them more important than gender in certain contexts, can also affect assessment outcomes." One of the most popular techniques to evaluate understanding of written materials in more advanced levels is multiple-choice (M-C) reading comprehension tests that follow a reading passage.

Firstly, to have the most pure items with the minimum imposition of writing task (as in other techniques like summary writing or written recall) the test developers, according to Madsen (1983, p. 83), may focus on the standard M-C technique as one of the best techniques for reading comprehension appraisal, especially in regard to investigations with large number of test takers. Secondly, in studies dealing with gender differences, it seems necessary to minimize the scorers' potentially gendered intervening influence on test evaluation by using the most

Corresponding author name. Tel.: +39-339-7304494

E-mail address: iranbahgorji@yahoo.com

objective methods and techniques of language testing. Therefore, most of studies about reading comprehension and gender differences (Bügel & Buunk, 1996; Young & Oxford 1997; Brantmeier, 2003; 2004; Pae, 2004) have utilized this technique of reading skill evaluation exclusively or inclusively.

2. Review of literature

There have been studies that document individual differences in second language (L2) reading comprehension but only a small number of L2 reading studies have been conducted where gender is examined in the procedures and analysis and the findings reported in these studies are inconsistent or contradictory. Doolittle and Welch (1989) found gender differences at the item level for the US college students. Reading items based on humanity-oriented passages favored females, whereas those based on science-oriented passages favored males. In their study, they did not control for the ability of the participants. In other words, males and females participating in these studies were not matched with respect to the reading ability in the target language.

Accordingly, as Pae (2004, p.267) says, "It is possible that the reported gender effect may be confounded with ability level". Conversely, Young and Oxford (1997), with regard to the recall scores, no significant differences by gender were reported for all three text topics, and furthermore, there were no reported differences by gender in the familiarity ratings with passage topics or background knowledge of any of the passages.

With high school students, Bügel and Buunk (1996) examined gender differences in L2 reading comprehension on a national foreign language exam in the Netherlands (N=2980). On this exam, they found that males scored significantly better on the M-C comprehension items for essays about laser thermometers, volcano, cars, and football players. Females achieved significantly higher scores on the comprehension tests for essay on text topics such as midwives, a sad story, and a housewife's dilemma. The researchers concluded that the topic of a text is an important factor in explaining gender-based differences in second language reading comprehension.

Brantmeier (2003) reported significant interactions between readers' gender and gender-oriented passage content with comprehension among intermediate second language learners of Spanish at the university level (N= 29 males and 49 females). The two passages utilized in this study were authentic narratives about a boxing match and a frustrated housewife. Results indicated a significant gender difference with comprehension assessing via multiple-choice as well as written recall. Males scored higher on both tasks with the boxing match text topic and females outperformed males on the frustrated housewife passage topic. Self-reported topic familiarity ratings were also significant by gender and text topic. This study provided evidence that readers' gender and passage content interacts in ways that affect second language reading comprehension. With the same participants and reading passages, gender differences did not account for difference in strategy use when reading a second language (Brantmeier, 2003). Brantmeier (2003, p. 13) suggested that in the intermediate level it may not be linguistic factors (in the Spanish language) that impede second language comprehension but rather the unfamiliar content of the text.

The two above L2 reading studies examined whether a readers' gender accounts for differences in reading comprehension, but there are important differences in the research design methods of each study: Bügel and Buunk (1996) utilized high school participants and the passage were essays while Brantmeier's (2002; 2003) participants were from intermediate and advanced levels and passages were authentic, gender-oriented short stories. Also Bügel and Buunk (1996) emphasized on interest and enjoyment more than Brantmeier (2002; 2003; 2004) on her studies. The findings from Brantmeier (2003) are consistent with other previous studies that report group mean differences in standardized tests published in the United States (e.g., Doolittle & Welch, 1989; Hyde & Linn, 1988).

The contrasting findings in studies that have examined gender and passage content suggest the need for further investigations of this nature. Most investigations of this nature have been done with readings in Spanish language. Pae (2004) examined the effect of gender on English reading comprehension for Korean EFL learners. Pae suggested the further studies about gender effect on second language reading comprehension should consider item type as well as item content.

This study attempts to examine the effects of the readers' gender and passage content empirically, in different test administrations, on M-C reading comprehension test performance among Iranian male and female EFL

university students at the upper-intermediate level and provide valuable information for administrators' decision-making problems on language policy in order to have almost a fair assessment of reading proficiency of individuals regardless of sex particularly where examination results have a strong impact on test-takers' lives – for example, university entrance exams. Three important questions raised in this study will be: (1) Does readers' gender account for differences in M-C reading comprehension test performance of EFL readers in different test administrations?, (2) Does gender-oriented passage content of the reading texts, in different test administrations, affect the EFL readers' M-C reading comprehension test performance?, and (3) Do readers' gender and passage content interactively affect the M-C reading comprehension test performance of EFL readers in different test administrations?

3. Method

3. 1. Participants

A total of 60 advanced Iranian EFL students (i.e., 30 males and 30 females) from *Persian Gulf University* and *Islamic Azad University of Bushehr* whose majors were English Language and Literature or English Language Translation participated in this investigation.

3. 2. Instrumentation

A topic familiarity questionnaire enlisted 15 various topics of reading passages and asked respondents to choose their most favourable topics respectively and rank them from the most favourable one to the least. By analyzing the questionnaires filled by respondents, male-oriented, female-oriented, and neutral topics for selecting the contents of reading passages in constructing three M-C reading comprehension tests were found.

To have a homogeneous population of male and female participants, the study sample was selected through a vocabulary and reading comprehension test, compiled from *Longman Preparation Course for the TOEFL Test: Practice Test, vol. B* (Philips, 1996) including four passages and 40 M-C items and the reliability of the test was ($r = .74$) through the KR-21 method, administered to 117 Iranian EFL university students (41 males and 76 females), who were mostly senior, in Bushehr.

Based on the questionnaire analysis, three booklets as male-oriented, female-Oriented, and neutral reading comprehension tests with 10 M-C items were prepared. The reliability of the male-oriented, female-oriented, and neutral reading comprehension tests were computed and respectively the reliability of the tests were ($r_m = .98$), ($r_f = .92$), and ($r_n = .97$) through parallel test method. These three reading comprehension tests were extracted from *Advanced Reading Comprehension* (Mirzaee, 2004) which is a collection of *Science Research Associates* reading texts with their constructed M-C items. Each passage contained averagely 350 words and consisted of about one-half of a page.

3. 3. Procedure

At first, the topic familiarity questionnaire was given to 117 EFL university students (i.e., 41 males and 76 females) who were inquired about their most favourable topics. Respondents were the students who participated in vocabulary and reading proficiency test. By analyzing the responses, gender-oriented reading passages and the neutral ones in the forthcoming reading comprehension tests were selected.

After selecting reading passages, a vocabulary and reading comprehension test was conducted among 117 EFL university students of Bushehr (i.e., 41 males and 76 females) to choose the sample participants (i.e., 30 males and 30 females) with the same English reading proficiency level (upper-intermediate) for the three forthcoming reading comprehension tests in this investigation. Prior to the test administration, the test was given to a group of male and female EFL university students and the reliability of the test was verified through the KR-21 method ($r = .74$). Thirty males and thirty females whose marks (out of 40) fell into the 28-38 intervals were picked among the test takers (41 males and 76 females) to participate in the final reading comprehension test administrations.

Eventually, the raw data obtained from scoring three reading comprehension tests were submitted to one-way and two-way ANOVA (Analysis of Variance) to investigate the effects of the readers' gender and passage content on M-C reading comprehension test performance of male and female EFL university students who participated in

these test administrations.

4. Results

To begin with, the analysis of the topic familiarity questionnaire indicated that the most popular topic for male respondents was *Natural Rights in Society* and the most favorite topic for female respondents was *Fashion*. Moreover, it showed that the best candidate for the neutral topic was *College Town*, which was located in the seventh rank for males and the ninth rank for female respondents. Consequently, the passages mentioned above were selected for three M-C reading comprehension tests.

The results of examinations showed better performance of male participants than female participants in these tests; 6.54 total mean for male participants and 6.44 total mean for female participants.

Also the results of two-way ANOVA yielded significant interaction effect of the reader's gender and passage content without considering neutral reading comprehension test and consequently, except for the first null hypothesis (H_{01}) for the reader's gender, the second and third null hypotheses (H_{02} and H_{03}) were rejected. Table 1 summarizes the results of two-way ANOVA for the interaction effect of the readers' gender and passage content on the performance of sample EFL students in two reading comprehension tests (i.e., male-oriented and female-oriented).

Table 1. Two-way ANOVA for the interaction effect of the readers' gender and passage content

Source of Variance					
Between Groups:	22.49	SS	df	MS	F
Readers' gender (A)		0.07	1	0.07	0.05
Passage Content (B)		7	1	7	5.1*
A × B		15.42	1	15.42	11.25*
Within Groups		159.43	116	1.37	
Total		181.92	119	1.52	

* $p < .05$

To certify the assumption mentioned above, the raw data got from the three reading comprehension tests were also submitted to two-way ANOVA for both the reader's gender, with two levels, and passage content, with three levels, to compute the influence of neutral reading comprehension test in neutralizing the effects of these two independent variables on the performance of sample participants (i.e., 30 males and 30 females) in reading comprehension tests. The results of two-way ANOVA depicted no significant effect for both readers' gender and passage content and the first and second null hypotheses (H_{01} and H_{02}) were verified. Table 1 shows the summary of two-way ANOVA for the readers' gender and passage content by embedding neutral passage content as the third level of passage content:

According to Table 1, it can be certified that neutral reading comprehension test had a striking influence on neutralizing the effects of the reader's gender and passage content on the test performance of EFL sample students these test administrations.

5. Discussion and Conclusion

The results of this study made it clear that text topics can bring about gender differences in EFL reading comprehension scores and there were important differences in background knowledge and interest between male and female participants. This study suggests that different scores of male and female participants were associated with their difference in prior knowledge and interests. Questionnaire analysis showed remarkable differences in self-reported familiarity, knowledge about, and interest in a number of topics.

The results of two-way ANOVA for passage content showed that in this study the performance of male and female participants on reading comprehension tasks was significantly affected by gender-oriented passages ($p < .05$). This investigation provided evidence that subject matter familiarity and interest have facilitating effects on the foreign language reading comprehension of the sample Iranian EFL students by gender at the upper-intermediate level of English reading proficiency.

Generally speaking, it seems that topic knowledge of the reading passage can affect the comprehension tasks of male and female EFL students at the upper-intermediate and higher levels of English reading proficiency. Topic familiarity or cultural context of a passage can provide information about the interpretation of a passage in terms of personal knowledge and it is likely to give an extra aid in comprehension to one gender, while hindering the reading comprehension process of the other sex.

The results of this investigation provided support for the notion that gender differences in EFL reading comprehension were affected by the topic of the text or passage content. Considering the neutral passage content, the result of the second two-way ANOVA procedure also showed the interaction effect of the readers' gender and passage content on the reading comprehension test performance of sample EFL students (i.e., 30 males and 30 females) within three test administrations ($p < .05$).

Understanding how the reader interacts with other variables in L2 reading activity provides a richer and more meaningful explanation of the manner in which gender may influence successful reading comprehension. Finding answers to inquiries on gender differences is not an easy task, and consequently, the conclusions are not simple. Reading performance by male and female L2 readers seems to depend on many interacting variables. The present study shows that with Iranian male and female EFL students from upper-intermediate level of language instruction, testing materials, i.e. passage content, may affect their L2 reading comprehension but more research needs to be conducted on the effect of the readers' gender and passage content in L2 reading comprehension.

To sum up, the results from both the readers' gender and passage content suggested their significant impact on the reading comprehension test performance of sample participants (i.e., 30 males and 30 females) in this study ($p < .05$). According to the results of the present study, passage content or the topic of the text appears to be an important factor in explaining gender differences after EFL readers have reached advanced levels of language instruction.

References

- Brantmeier, C. (2002). The effects of passage content on second language reading comprehension by gender across instruction levels. In J. Hammadou Sullivan. (Ed.), *Research in second language learning: Literacy and the second language learner* (pp. 149-176). Greenwich, CT: Information Age Publishing.
- Brantmeier, C. (2003). Does gender make a difference? Passage content and comprehension in second language reading. *Reading in a Foreign Language*, 15 (1), 1-24.
- Brantmeier, C. (2004). Gender, violence-oriented passage content and second language reading comprehension. *The Reading Matrix*, 4(2), 1-19.
- Brown, A. & McNamara, T. (2004). "The devil is in the detail": Researching gender issues in language assessment. *TESOL Quarterly*, 38(3), 524-538.
- Bügel, K. & Buunk, B. P. (1996). Sex differences in foreign language text comprehension: The role of interests and prior knowledge. *Modern Language Journal*, 80, 15-31.
- Doolittle, A., & Welch, C. (1989). Gender differences in performance on college-level achievement test. *ACT Research Series* 89-9. Iowa City: ACT.
- Hyde, J., & Linn, M. (1988). Gender differences in verbal activity: A meta-analysis. *Psychological Bulletin*, 104, 53-69.
- Lin, J. & Wu, F. (2003). *Differential performance by gender in foreign language testing*. Paper presented at the annual meeting of the national council on measurement in education (Chicago, IL.).
- Madsen, H. S. (1983). *Techniques in testing*. USA: Oxford University Press.
- Mirzaee, D. M. (2004). *Advanced reading comprehension*. Tehran: Rahnama Publications.
- Pae, T. I. (2004). Gender effect on reading comprehension with Korean EFL learners. *System*, 32, 265-281.
- Philips, D. (1996). *Longman preparation course for the TOEFL test: Practice test, vol. B*. London: Addison-Wesley Publishing.
- Young, D. J., & Oxford, R. (1997). A gender-related analysis of strategies used to process input in the native language and a foreign Language. *Applied Language Learning*, 8, 43-73.